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All My Rowdy Friends: The Effect of Super Bowl Hosting on Audit and Financial Reporting Timeliness

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Abstract

Purpose – The purpose of this paper is to examine the impact hosting the Super Bowl has on audit completion and financial reporting timeliness for companies headquartered in Super Bowl hosting cities.

Design/methodology/approach – Using 16 years of financial reporting data, we use the Super Bowl and related activities, combined with required filings during “busy season,” as a natural experiment to examine how audit firms navigate short-term, exogenously imposed but anticipated, audit team capacity constraints.

Findings – Companies headquartered in a city hosting the Super Bowl, during busy season, have longer audit report lags (by approximately three days, in comparison to non-hosting busy season audits) and less timely SEC (10-K) filings. We find no evidence that Super Bowl hosting affects audit fees or earnings announcement timeliness.

Practical Implications – When confronted with anticipated capacity shocks, audit firms take longer to complete the audit, absorbing the financial costs of the delay and maintaining audit quality, resulting in less timely financial reporting.

Originality/value – Our study demonstrates the costs of Super Bowl-related inefficiencies and contributes to our understanding of how auditors navigate capacity shocks. We provide evidence that auditors can effectively manage business risk and continue to facilitate providing timely and accurate information to financial statement users in the face of a capacity shock.

Keywords: audit report lag, audit delay, audit fees, time pressure

Paper type: Research Paper

“We got the teams on the field, and we turned up the lights.
All my rowdy friends are here for (Super Bowl) night!”
– Hank Williams, Jr

1. Introduction

Americans celebrate the Super Bowl like a holiday (“the biggest party day of the year”), and the closer in proximity one is to the game, the longer and more intense the festivities are (Gleiter, 2011). Thus, the Super Bowl offers researchers a setting within which to study how audit firms manage their own business risk arising from the capacity shock of having staff who may have overindulged in Super Bowl-related activities. Accountants and auditors are experts at internal control system design and governance, and demand for and recognition of their expertise is expanding to non-financial reporting contexts (Baxter *et al.* 2013; Asante-Appiah and Lambert, 2022). As researchers, policymakers, and regulators continue to debate the extent of the auditor’s role in ESG and other non-GAAP reporting (Christensen *et al.*, 2021; Knechel, 2022; SEC, 2022), it is important to evaluate how auditors perform their financial reporting role and manage their own business practices. Doing so helps to evaluate how well auditors manage risk and other broader questions of governance, and to identify when auditors effectively facilitate providing timely and accurate information to financial statement users. In other words, if auditors are experts at managing the risks that face their clients, they should be able to identify and manage the risks that apply to their own audits. In this study, we use a unique annual event that we argue acts as an exogenous cognitive capacity constraint shock—the Super Bowl—to explore whether audit firms take longer to complete temporarily constrained audits.

Approximately 50 percent of Americans host or attend a Super Bowl party or watch the Super Bowl at a bar. The estimates of spending on food and beverages for Super Bowl Sunday celebrations exceed \$15 billion per year (Alanis and Sweeney, 2019; Gough, 2019; Smith, 2017; Shay, 2018). The timing and magnitude of the event pose a significant disruption for many host-

city businesses (Misra, 2016; Rogers, 2016; Wile, 2020). Roads and transit lines are jammed for up to two weeks before the event, and the toll on police, paramedic, and public infrastructure stretch services well beyond capacity. While the Super Bowl does not take place on a workday, many revelers find themselves recovering from its celebratory activities the following “Super Monday,” causing an estimated 17 million Americans to miss work (Goodwin, 2020; Gouthro, 2019; Pesce, 2019).

In the public company and public accounting realm, the Super Bowl takes place at a particularly inopportune time: busy season. The game falls amid most public companies’ year-end financial statement audit; the fourth quarter/year-end earnings reporting season has commenced, and the SEC’s annual report (10-K) deadlines are approaching. Given the game occurs on the first Sunday in February, the timing is likely to be particularly problematic to financial statement auditors, as filing deadlines on multiple clients arrive in rapid succession (Bronson *et al.*, 2011; Ettredge *et al.*, 2007). Additional demands on or constraints to audit team capacity during busy season potentially reduce financial reporting timeliness or the effectiveness of the audit. For example, prior research finds regulatory-induced shocks to audit team resources negatively affect the timeliness and quality of financial statement filings (Lambert *et al.*, 2017), particularly during busy season (Bryant-Kutcher *et al.*, 2013). In addition, on-site members of the audit team, who are often young recent college graduates, are likely eager to take part in host-city social and networking opportunities afforded by the Super Bowl.¹ In other words, audit teams are likely to be particularly affected by the distraction of the Super Bowl.

¹ Although audit partners determine the audit report issued, junior staff members perform the procedures that form the foundation of the partner’s opinion and which seriously affect audit quality (Willet and Page, 1996; Herrbach, 2005; Lambert and Agoglia, 2011).

The Super Bowl is a unique event compared to other exogenous shocks studied in the accounting literature, which are generally regulatory in nature and/or non-temporary (e.g., changes in filing deadlines and local office size) or unannounced/unanticipated, but relatively observable to the audit firm (e.g., the financial crisis, an influenza or COVID outbreak). The impact of the Super Bowl on the audit team is both temporary and predictable as the Super Bowl location is announced years in advance. However, because hosting is an infrequent occurrence, and cognitive capacity constraint shocks are likely to be more difficult to observe, audit firms may not be conscious of the Super Bowl's periodic impact on the financial reporting process. Thus, the Super Bowl setting allows us to examine how audit firms manage a capacity constraint shock that is exogenously imposed, but predictable.

The audit environment in the United States is risk-sensitive and litigious (Khurana and Raman, 2004; Seetharaman *et al.*, 2002), which suggests that if the Super Bowl acts as a cognitive capacity constraint shock it is more likely to result in longer audit completion times than reduced audit quality. That is, due to the ample amount of time audit firms have to prepare for the Super Bowl, we expect them to shift resources among engagements and/or take more time before concluding they have sufficient and appropriate evidence to support the audit opinion, as audit partners reported these strategies to be effective for coping with regulatory-induced anticipated capacity constraints (Lambert *et al.*, 2017). Thus, we expect that Super Bowl hosting increases audit completion times such that audits conducted during "Super Bowl Mania" (i.e., the ten-day to two-week period surrounding Super Bowl Sunday during which host-city events take place) take longer than audits conducted without host-city distractions. We predict an association between Super Bowl hosting and a publicly traded companies' audit report lag, a measure of financial reporting timeliness defined as the time between fiscal year-end and the audit report

date (Ashton *et al.*, 1987; Bronson *et al.*, 2011). We further investigate the impact of Super Bowl hosting on other audit-related and disclosure-related measures: 10-K filing lag, earnings announcement lag, and audit quality.

We find that, as predicted, busy season audits of companies headquartered in the metropolitan statistical area (MSA) hosting the Super Bowl in a given year (hereafter, “host-city audits”) have longer audit report lags than audits of companies headquartered in MSAs that have hosted the Super Bowl, but for which the audit takes place in a non-hosting year or outside of busy season. In non-hosting years, audit report lag is slightly (0.23 days) longer for non-busy season clients in our sample than busy season clients; however, in hosting years, busy season clients take almost two (1.77) days longer to audit than non-busy season clients. Because evidence suggests the interpretation of the audit report date has shifted for fiscal years ending after June 15, 2009 (Glover *et al.*, 2022), we note that we find qualitatively similar (but weaker) results in a segmented sample for the pre-2009 Compustat fiscal-year period which should be more representative of audit efficiency/timeliness than post-2008 observations. We also document that it takes longer to file the 10-K (hereafter, “filing lag”) for host-city companies than for other companies in our sample. However, we find no evidence of an association between Super Bowl hosting and the earnings announcement filing date, audit fees, or audit quality, consistent with the notion that audit firms are able to effectively anticipate and absorb efficiency costs associated with Super Bowl hosting.

Our paper adds incrementally to the sports management literature that investigates the economic and societal impact of the Super Bowl (Babiak and Wolfe, 2006; Crompton and Howard, 2013; Kim and Walker, 2012; Matheson and Baade, 2006), and we contribute to the ongoing stream of auditing literature that examines the impact of client and local office attributes

(e.g., industry expertise, social capital, proximity to SEC offices) on financial reporting timeliness and effectiveness (Beck *et al.*, 2018; Francis *et al.*, 2005; Jha and Chen, 2015; Murthy *et al.*, 2023; Whitworth and Lambert, 2014). We also contribute to the auditing literature that focuses on human capital as an important audit quality input and that explores the association between cognitive capabilities and audit outcomes (Knechel *et al.*, 2013; Bills *et al.*, 2016; Kallunki *et al.*, 2018; Morris and Hoitash, 2023). We find evidence that the Super Bowl acts as a cognitive capacity constraint shock on host-city audits and that audit firms cope with the constraint by taking more time to complete the audit. Unlike Bills *et al.* (2016) and Morris and Hoitash (2023), who explore capacity constraints in other settings, we find no impact on audit quality for our constrained audits (using restatements and abnormal accruals as proxies). Thus, most importantly, we provide evidence of auditor effectiveness at managing the audit firm business risk posed by a short-term exogenous capacity constraint shock, offering some comfort to audit firms and investors regarding auditor competence and ability to identify and manage risk.

2. Literature and hypothesis development

2.1 Auditor risk mitigation

Client acceptance and audit planning requires auditors to consider whether the audit firm has the ability to provide a GAAS-compliant audit and to satisfy the client's reasons for needing the audit (Messier *et al.*, 2022). These considerations often focus on auditor resources relative to client size, however the auditor's business risk may be affected by elements outside of or tangential to the size or financial performance of the client company—specifically, by factors related to human capacity constraints. For example, Czerney *et al.*, (2019) document that client deadline concentration in the audit office's portfolio of clients negatively impacts audit quality,

while Cassell *et al.*, (2020) show that new audit engagements started late in the year are associated with lower audit quality. Both studies suggest timing constraints or pressures related to how auditors manage their human capital capacity can negatively impact the audit, calling into question how well audit firms are at managing their own business risks. The Super Bowl setting differs from these studies in that the capacity constraint is exogenously imposed. Audit firms may be more adept at managing exogenously-imposed capacity constraints than ones resulting from their own client acceptance and planning decisions, as research finds that people focus differently on external versus internal factors when making decisions (Gilbert *et al.*, 2004; Trope and Liberman, 2010). Thus, examining the ability of audit firms to navigate exogenously-imposed constraints should be helpful for making inferences about their ability to identify their clients' business risks, as such risks are generally external to audit firms.

2.2 Super Bowl hosting

The Super Bowl, first played in 1967, has grown over the years and many Americans now recognize Super Bowl Sunday as an unofficial national holiday. In fact, there is recent talk of turning Super Bowl Monday into an official holiday in Tennessee (Breech, 2023).² Since the game is played on a Sunday night, its popularity extends to affect the national workforce as 'Super Bowl Fever' results in millions of employees (approximately ten percent of the U.S. workforce) either taking Super Monday off or coming into work late (Goodwin, 2020; Gouthro, 2019; Pesce, 2019). Missing work on the Monday following the Super Bowl has become so ingrained in culture that Fox Broadcasting Company launched an advertising campaign for the 2020 Super Bowl centered on the idea of Super Monday, where a fictional character in the role

² Estimates of national Super Bowl spending exceed \$14 billion each year and reached \$15.5 billion for 2016 (Alanis and Sweeney, 2019; Gough, 2019; Smith, 2017), with almost half of viewers hosting or attending a Super Bowl party (Alanis and Sweeney, 2019; Gough, 2019; Smith, 2017). Super Bowl LI saw a total viewership of approximately 172 million, representing 70 percent of all U.S. households (Perez, 2017).

of “Mayor of Monday” encourages employees not to come to work the day after the Super Bowl (Schneider, 2020). One consulting firm estimates the nationwide negative impact of the Super Bowl on worker productivity due to absenteeism/lateness and “discussing the game, watching highlights, or setting up their Super Bowl pools” at approximately \$1.742 billion (Challenger *et al.*, 2017).

While spending and viewership numbers show the national impact of the Super Bowl, there is a considerable effect on the city and region hosting the Super Bowl. Hosting the Super Bowl creates what can be referred to as ‘Super Bowl Mania,’ given the large number of official events associated with the Super Bowl in the weeks leading up to the game, along with countless unofficial events (e.g., Blackburn, 2020).³ Costs associated with the influx of visitors and activity precipitated by the Super Bowl include millions of dollars in direct costs that are absorbed through tax dollars, decreased employee productivity, and disruption of day-to-day activities of local residents (Misra, 2016; Rogers, 2016). For young, client-driven professional employees (such as auditors), diversions are likely to be high, as friends, colleagues, and clients flock to the city and entertainment opportunities skyrocket (Barnes, 2019; Delaney, 2020).

2.3 Financial reporting timeliness

Super Bowl-related distraction is likely to result in a loss of overall productivity, particularly to employees already experiencing a lack of time slack in their life (as suggested by Jett and George, 2003), such as financial statement auditors during busy season. Most companies end their reporting years on the last day of December, generating a flurry of first quarter activity

³ For example, Houston expected over one million people to participate in Super Bowl LI events held in the city prior to the game (Guerra, 2017). Such events included “Super Bowl Live!” which lasted for nine days and was described as a “family-friendly fan festival in downtown Houston...encompassing more than 750,000 square feet” (Guerra, 2017). In addition, the city planned over 60 free concerts and 30 charitable events for the week leading up to Super Bowl LI and anticipated more than 140,000 out-of-town visitors.

for those responsible for year-end financial reporting (Bronson *et al.*, 2011; Ettredge *et al.*, 2007). The busy season period is particularly trying for audit firms, as they must simultaneously manage the audits of multiple clients with the same fiscal year-end date. During busy season, audit personnel experience a dramatic increase (e.g., 30 percent) in workload (Sweeney and Summers, 2002), reducing any slack in available audit team cognitive capacity. Audit teams can and do anticipate and prepare for the cyclical capacity strain of a typical busy season, though there is some evidence of lower audit quality for busy season audits (López and Peters, 2012); regardless, changes or shocks occurring during this period are particularly detrimental to financial reporting timeliness and audit effectiveness. For example, prior research finds evidence that accelerating the SEC-mandated 10-K filing deadline (a regulatory-induced shock to audit team resources) negatively affected the timeliness and quality of relevant financial statement filings (Lambert *et al.*, 2017), and particularly for busy season audits (Bryant-Kutcher *et al.*, 2013). Thus, the Super Bowl offers an appropriate setting to study how audit firms manage their own business risk, which is important as companies and investors expect audit firms to be able to identify and respond to their clients' business risks.

Studies on the regulatory impact of SOX provisions and PCAOB standards find that audit firms respond to increased workload by increasing the time they take to complete the audit (Bronson *et al.*, 2011; Ettredge *et al.*, 2007). Survey evidence suggests if audit firms are aware of the Super Bowl as a potential capacity constraint shock, they will spend more time on host-city audits, as audit partners report working more hours and reallocating human resources as the most effective strategies for coping with capacity constraints caused by regulatory-induced 10-K filing deadline accelerations (Lambert *et al.*, 2017). However, the Super Bowl differs from a regulatory setting, or from capacity constraint shocks that are more evident, like the flu (Morris and

Hoitash, 2023), COVID-19 (Harjoto and Laksmana 2023), or growth in the audit firm's consulting revenue (Meckfessel and Sellers 2017), because the Super Bowl does not disrupt the audit or reduce capacity in a way that would be officially acknowledged by audit standards or firm policy. In fact, firms may not *observe* a cognitive capacity constraint shock, particularly if constrained auditors simply document performing procedures they have not performed (i.e., *ghost-ticking*) or engage in other dysfunctional auditor behavior to cope with the constraint (see, e.g., Lambert and Agoglia, 2011; Carlisle *et al.*, 2023). Thus, auditors may conceivably experience a cognitive capacity constraint shock, but do not or cannot reallocate human resources to devote more time to the audit.

Auditors are expected to be experts at evaluating risk and designing internal control and governance systems (Baxter *et al.*, 2013; Asante-Appiah and Lambert, 2022), and the audit environment is risk-sensitive and litigious (Khurana and Raman, 2004; Seetharaman *et al.*, 2002). If the Super Bowl acts as a cognitive capacity constraint on host-city audits, we expect auditors to increase audit completion times in order to avoid undue risk. Increased audit completion times should reduce financial reporting timeliness. Thus, we predict a positive association between hosting the Super Bowl and audit report lag (the difference between the company's fiscal year-end and the audit report date). We formally hypothesize:

There will be a positive association between Super Bowl hosting and audit report lag.

2.4 Other audit-related outcome measures

Several regulatory and audit practice changes may have altered the meaning of the audit signature date, suggesting there is a decrease in the information content of audit report lag as a proxy for audit efficiency and timeliness after the 2008 Compustat fiscal years (Glover *et al.*, 2022). Specifically, the audit report date may no longer align with the substantial completion of

audit fieldwork, though it is still a meaningful date in terms of the auditor's subsequent events reporting. Following the acceleration of filing deadlines in the mid-2000s, the "slack" time between the audit report date and the 10-K filing date decreased (Lambert *et al.*, 2017), so a less timely audit is likely to result in a less timely 10-K filing. The filing lag is the number of days between fiscal year-end and the 10-K filing date. Thus, the 10-K filing lag is likely to be as informative about audit completion as the audit report lag for audits post-2009. Thus, we use the filing lag as an alternative measure of audit completion.

We also investigate, but make no formal predictions regarding, the impact of hosting the Super Bowl on reporting timeliness as measured by the earnings announcement date, audit fees, and audit quality. Earnings announcement lag, the number of days between fiscal year-end and the earnings announcement release date (Krishnan and Yang, 2009; Whitworth and Lambert, 2014), is an important measure of reporting timeliness, as investors respond more strongly to the earnings announcement than to the 10-K (Schroeder, 2016), despite earnings announcements that predate audit completion being less reliable (Bronson *et al.*, 2011). As discussed earlier, we expect audit team members are particularly prone to the types of distraction/disruption caused by the Super Bowl. However, if client staff are the primary drivers of inefficiencies arising for host-city companies, then there should be a relation between Super Bowl hosting and the earnings announcement lag, particularly due to the voluntary nature of the earnings announcement.

Audit fees can reflect the amount of audit effort (e.g., additional audit procedures or expert personnel) required for the audit (Ettredge *et al.*, 2014; Ettredge *et al.*, 2007; Bell *et al.*, 2001; Johnstone and Bedard, 2001; Simunic and Stein, 1996; Davis *et al.*, 1993; Chen *et al.*, 2023). Thus, if audit firms are unwilling to absorb the cost of host-city audit inefficiencies themselves, we would expect to see a positive relationship between Super Bowl hosting and

audit fees. We note, however, that increasing audit fees was not viewed by partners as an effective strategy when dealing with the 10-K filing deadline reduction (Lambert et al., 2017), and audit fees can also reflect elements other than effort (Hoffman and Nagy, 2019).

Finally, if the Super Bowl (at least temporarily) reduces audit team capacity, and audit firms are not able to successfully maintain audit effectiveness with that reduced capacity, we should find an association between Super Bowl hosting and audit quality. We use two common financial reporting measures to proxy for audit quality: financial statement restatements (i.e., likelihood that a material misstatement existed in the audited financial statements as issued) (Dechow *et al.*, 2011; Lobo and Zhao, 2013) and abnormal accruals (i.e., the quality of reported earnings) (Kothari *et al.*, 2005; Reichelt and Wang, 2010). In untabulated analyses, we also consider reporting complexity (Hoitash and Hoitash, 2018) and readability (Loughran and McDonald, 2014) (i.e., disclosure quality).

3. Research method

3.1 Empirical Models

To test our hypothesis that busy season audits conducted by teams working in the local metropolitan statistical area (MSA) hosting the Super Bowl will be positively associated with audit report lag, we estimate the following regression model using ordinary least squares.

$$\begin{aligned}
 Aud_Lag_t = & \beta_0 + \beta_1 Host*Busy + \beta_2 Host_t + \beta_3 Fees_Scaled_t + \beta_4 Busy_t + \beta_5 Size_t + \beta_6 B4_t + \beta_7 \\
 & Segments_t + \beta_8 ROA_t + \beta_9 Rec_Inv_t + \beta_{10} NI_Loss_t + \beta_{11} Volume_t + \beta_{12} MB_t + \beta_{13} Foreign_t + \beta_{14} \\
 & Mat_Weak_t + \beta_{15} LAF_t + \beta_{16} AF_t + \beta_{17} Going_Concern_t + \beta_{18} Extra_t + \beta_{19} Special_t + \beta_{20} \\
 & Leverage_t + \beta_{21} M\&A_t + Industry_t + Year_t + \varepsilon_t
 \end{aligned} \tag{1}$$

Following Peterson (2009), we control for standard error bias due to heteroscedasticity and serial correlation of residuals with year dummies in the regression models and standard errors clustered by company. To investigate the reporting timeliness implications of Super Bowl hosting, we replace Aud_Lag_t with EA_Lag and $10K_Lag$ (defined below) in model (1), and to

investigate the audit effort (*Aud_Fees*) and audit quality ramifications of Super Bowl hosting we estimate models (2) and (3) below:

$$Aud_Fees_t = \beta_0 + \beta_1 Host*Busy + \beta_2 Host_t + \beta_3 Busy_t + \beta_4 Size_t + \beta_5 B4_t + \beta_6 Segments_t + \beta_7 ROA_t + \beta_8 Rec_Inv_t + \beta_9 NI_Loss_t + \beta_{10} Volume_t + \beta_{11} MB_t + \beta_{12} Foreign_t + \beta_{13} Mat_Weak_t + \beta_{14} LAF_t + \beta_{15} AF_t + \beta_{16} Going_Concern_t + \beta_{17} Extra_t + \beta_{18} Special_t + \beta_{19} Leverage_t + \beta_{20} M\&A_t + Industry_t + Year_t + \varepsilon_t \quad (2)$$

$$Audit_Quality = \beta_0 + \beta_1 Host*Busy + \beta_2 Host_t + \beta_3 Fees_Scaled_t + \beta_4 Busy_t + \beta_5 Size_t + \beta_6 B4_t + \beta_7 Segments_t + \beta_8 ROA_t + \beta_9 Rec_Inv_t + \beta_{10} NI_Loss_t + \beta_{11} Volume_t + \beta_{12} MB_t + \beta_{13} Foreign_t + \beta_{14} Mat_Weak_t + \beta_{15} LAF_t + \beta_{16} AF_t + \beta_{17} Going_Concern_t + \beta_{18} Extra_t + \beta_{19} Special_t + \beta_{20} Leverage_t + \beta_{21} M\&A_t + Industry_t + Year_t + \varepsilon_t \quad (3)$$

3.2 Dependent variables

We consider six widely examined dependent variables pertaining to audit completion, audit efficiency, reporting timeliness, and audit quality: audit lag (*Aud_Lag*), annual report (10-K) filing lag (*10K_Lag*), earnings announcement lag (*EA_Lag*), audit fees (*Aud_Fees*), abnormal accruals (*Ab_Acc*), and probability of restatement (*P_Misstate*). Given positive skew in our dependent variables (Krishnan and Yang, 2009), we use a log transformation on our count-based dependent variables (*Aud_Lag*, *10K_Lag*, *Aud_Fees*, *EA_Lag*,). We define all variables in Appendix A.

3.3 Independent and control variables

Our independent variable of interest is *Host*Busy*, a dummy equal to one for host-city companies, defined as observations where the auditor's office is in the MSA hosting the Super Bowl for the upcoming year *and* the observation company's fiscal year-end is in December (i.e., immediately preceding the upcoming Super Bowl). We include dummy variables (*Busy*) to capture December fiscal year-end companies (Knechel and Payne, 2001; Lambert *et al.*, 2017) and whether the auditor is in the metropolitan statistical area hosting the Super Bowl for that year

(*Host*).⁴ We control for a variety of factors including client profitability and financial condition, client complexity, audit opinion modification, and client size as recommended by Durand (2019), and other controls that prior literature also finds likely to affect the scope of audit procedures, and by extension impact audit timeliness and effectiveness: the natural log of the market value of equity (*Size*, Bamber *et al.*, 1993); company filing status, using a dummy for large accelerated filers (*LAF*, Lambert *et al.*, 2017), and a dummy for accelerated filers (*AF*); auditor size (*B4*, Dopuch and Simunic, 1980); existence of material weaknesses in internal control (*Mat_Weak*, Ettredge *et al.*, 2006); a fee-derived measure of audit difficulty (*Fees_Scaled*, Ettredge *et al.*, 2006); a going concern opinion (*Going_Concern*, Mitra *et al.*, 2015); an operating loss (*NI_Loss*, Lopez and Peters, 2012); extraordinary items (*Extra*, Bamber *et al.*, 1993); special items (*Special*, Whitworth and Lambert, 2014); mergers and acquisition activity (*M&A*, Gal-Or *et al.*, 2022); foreign operations (*Foreign*, Whitworth and Lambert 2014); the number of reporting segments (*Segments*, Ashton *et al.*, 1987); the level of receivables and inventory (*Rec_Inv*, Whitworth and Lambert 2014); industry (*Industry*, Ashton *et al.*, 1987); profitability (*ROA*, Ettredge *et al.*, 2006); market to book ratio (*MB*, Frankel *et al.*, 2002); the demand for information through annual trading volume of common shares (*Volume*, Whitworth and Lambert 2014); and, debt level (*Leverage*, Ettredge *et al.*, 2006).

3.4 Sample and data

Table 1 summarizes our sample selection process. We merge the Audit Analytics Fee and Opinion files over the years 2000 – 2015 (161,293 observations) with the company-years available on the Compustat Industrial Annual File, yielding 90,246 potential company-years, of which 16,012 are missing control variable data necessary for our tests. Excluding observations

⁴ Our results are robust to including November fiscal-year ends in the *Busy* and *Busy*Host* measures, as those filers could also potentially be impacted by the disruption of a Super Bowl in late January or early February.

from years where Audit Analytics coverage is less complete (i.e. 2000 – 2002) does not alter our conclusions. We remove company-years located in MSAs that do not host the Super Bowl at least once in our sample, reducing our sample by 44,154. Our audit quality regressions face further data restrictions due to data availability.

Excluding companies from non-hosting MSAs generates a direct comparison of Super Bowl hosting MSA company-years ($Host = 1$) to a baseline condition of two closely-related groups ($Host = 0$): non-hosting company-years from the same MSA (i.e. comparing the host MSA-year to itself in non-hosting years), and non-hosting company-years from other MSAs that host the Super Bowl in another year during our sample period (comparing the host MSA-year to other MSAs that host at least once in our sample). Excluding MSAs that never host during our sample allows us to avoid comparing Super Bowl hosting MSAs (all but three of which rank in the top 20 in the United States by population) to considerably smaller and dissimilar MSAs and permits a parsimonious 2x2 comparison on the dimensions of $Host$ and $Busy$.

Table 2 provides details regarding the date and location of the Super Bowl in each year of our sample, as well as the number of company-year observations where $Host$ and $Host*Busy$ equal one for each Super Bowl. Table 3 presents descriptive statistics for our sample. Of the 30,080 observations in the data set, there are 1,899 audits that take place in a hosting MSA ($Host = 1$), and 1,418 of these occur during busy season ($Host*Busy = 1$). The values of our dependent variables compare similarly to those in prior literature (Bryant-Kutcher *et al.*, 2013; Ettredge *et al.*, 2007; Francis *et al.*, 2005; Francis and Yu, 2009; Krishnan and Yang, 2009), with the average audit in our sample taking 61.08 days, earnings announcements predating the audit report signature by roughly ten days (50.65 days earnings announcement lag), 10-K filings

occurring on average 73.62 days after fiscal-year-end, and sample companies on average paying approximately \$548,000 in audit fees.

Table 4 presents the Pearson correlation matrix for our models. Our interaction of interest, *Host*Busy*, exhibits a significant, positive (negative) correlation with audit report lag, earnings announcement lag, and audit fees (10-K filing delay). We note considerable and expected correlations between our dependent variables: the 10-K cannot be filed without an auditor's report, and longer audits generally imply a more expensive and less efficient audit. We observe several large univariate correlations (e.g., *Aud_fees* and *size*, *Aud_Fees* and *b4*), however the correlations are not unusual or problematic. The largest VIF in our regressions is 5.34, suggesting multicollinearity is not a major concern.

4. Results

4.1 Impact of Super Bowl hosting on audit completion

Panel A of Table 5 presents the multivariate (model 1) results of the impact of Super Bowl hosting on audit report lag (*Aud_Lag*), which we use to test our hypothesis. The models in Table 5 have substantial explanatory power, with r-squared values of 0.3357, 0.3202, and 0.8079, and many of our control variables exhibit effects significantly different from zero. The positive and statistically significant coefficient ($p = 0.0070$) for *Host*Busy* (0.0320) in the *Aud_Lag* regression provides evidence supporting the hypothesis that busy season audits in MSAs hosting the Super Bowl in a given year ("host-city audits") are associated with longer audit report lags. The main effect of *Host* captures the impact of Super Bowl hosting on companies *without* a December fiscal year-end and is statistically insignificant (coefficient = 0.0110; $p = 0.1568$), suggesting there is no impact of hosting the Super Bowl on financial reporting timeliness for non-busy season firms. The main effect of *Busy* captures the impact for

non-hosting years of busy season for firms who host the Super during the sample period and is statistically insignificant (coefficient = -0.0038; $p = 0.3065$), suggesting there is no busy season impact during non-hosting years.

Due to the structural shift in audit reporting versus 10-k filings highlighted by Glover *et al.*, (2022) we recognize the need to consider the difference in norms over time regarding fieldwork completion versus final audit procedures.⁵ Following their recommendation to ensure that results examining audit report dates are not confounded by noise caused by the structural shift, we segment our sample to examine the pre-2009 Compustat fiscal-year audit report lag for Model (1). We find a positive and marginally significant coefficient ($p = 0.0433$ using a directional, one-tailed, test) for *Host*Busy* (0.0481) using the reduced sample of firms in the *Aud_Lag(pre)* regression.⁶ The main effect of *Host* is negative but not statistically significant (coefficient = -0.0147; $p = 0.02724$). The main effect of *Busy* is negative and statistically significant (coefficient = -0.0428; $p = 0.0052$), suggesting busy season firms in the sample are associated with a more timely audit.⁷

Our 2x2 design allows for a difference-in-differences comparison of economic significance, which we present in Panel B of Table 5 for *Aud_Lag*. The difference in expected audit report lag between busy and non-busy season observations is 1.77 days when hosting the Super Bowl, but -0.23 days for non-hosting observations. In non-host years, non-busy season clients have slightly longer audit report lags than busy season clients (0.23 days). In host years,

⁵ Glover *et al.*, (2022) argue that prior to 2009 the audit report was typically signed at the conclusion of substantial fieldwork, but the signature date has since moved so that it is generally concurrent with the 10-K filing after 2009. Consistent with these arguments, for our sample the average difference between *10K_Lag* and *Aud_Lag* pre-2009 is 19 days and post-2009 is 1 day.

⁶ Consistent with our robustness tests, this effect is more pronounced for a reduced sample of only Big 4 audit clients in the pre-2009 period (coefficient 0.0718, p -value 0.037).

⁷ Unsurprisingly, given the 10-K filing-lag results we discuss in the next section, untabulated analyses for the post-2008 sample show the coefficient on *Host*Busy* is positive and significant (coefficient = 0.0238, $p=0.0055$).

busy season clients take almost two days (1.77 days) longer than non-busy season clients (i.e., there is a two-day swing in the difference-in-differences based on hosting status). We also evaluate economic significance while holding busy season status constant, where we find that the expected audit report lag is 2.67 days longer for busy season clients during Super Bowl hosting years relative to busy season clients during non-hosting years.⁸ Non-busy season clients experience only a 0.67 day increase during Super Bowl hosting years relative to non-hosting years.⁹ Finally, in untabulated analyses, we find that busy season accelerated and large accelerated filers experience a slightly larger increase in audit report lag (approximately 3.5 days) when hosting the Super Bowl than busy season non-accelerated filers (approximately 1.3 days). Overall, our results suggest less financial reporting timeliness for the busy season audits of host-city companies.

4.2 Impact of Super Bowl hosting on 10-K filing lag

Using the filing lag as an alternative measure of financial reporting timeliness, we measure the effect of Super Bowl hosting for busy season and non-busy season clients. The last set of columns on Table 5 report the coefficient on *Host*Busy* as positive (0.0224) and statistically significant (p-value = 0.0065), while the coefficient on *Host* is negative (-0.0192) and statistically significant (p-value = 0.0055). The filing lag results indicate busy season observations file on average 0.84 days more *quickly* than non-busy season observations when *not* hosting the Super Bowl. However, for Super Bowl hosting years, busy season observations file 0.81 days *later* than non-busy season observations during non-hosting years. The difference in

⁸ An approximation of the cost of a two- to three-day delay given an average audit fee of \$548,000 and an average audit delay of 61 days would range from roughly \$18,000 (2 days) to \$27,000 (3 days). We find (untabulated) a similarly increased audit delay for the pre-2009 subsample of approximately 2.94 days.

⁹ The economic significance is qualitatively similar when considering the pre-2009 sample, suggesting a longer audit delay for busy season host-year audits by 1.13 days (0.53 days) when compared to a host-year non-busy season client (when compared to a busy season non-host year client).

busy versus non-busy season clients equals a 1.64-day swing in the difference-in-differences impact on filing lag. The economic significance of Super Bowl hosting on filing lag is more pronounced for busy season accelerated and large accelerated filers (approximately 1.3 days) than for busy season non-accelerated filers (approximately half a day).

4.3 Impact of Super Bowl hosting on earnings announcement timeliness and audit fees

The regression results presented in Table 6 regarding earnings announcement timeliness and audit fees have considerable explanatory power (0.5567 and 0.8079). There is no evidence of a Super Bowl hosting impact on *EA_Lag*, as the coefficient on *Host*Busy* is not significant (coefficient = 0.0134; $p = 0.3308$). Consistent with prior literature, we find a fee premium for our sample of busy season audit clients (*Busy* coefficient = 0.0645; $p = 0.0011$). We find no evidence of an incremental fee premium for host-city audits (despite them taking longer), as the positive coefficient on *Host*Busy* (0.0297) is not statistically significant ($p = 0.3179$), nor do we find a significant effect of Super Bowl hosting on non-busy season companies (*Host* coefficient = 0.0020; $p = 0.9366$).

4.4 Impact of Super Bowl Hosting on Audit Quality

We investigate the audit effectiveness implications of Super Bowl hosting using two common proxies for audit quality (see Knechel *et al.*, 2013 and DeFond and Zhang, 2014 for relevant discussions): *P_Misstate*, a predicted value of the probability of an accounting restatement (Dechow *et al.* 2011; Lobo and Zhang 2013); and, *Ab_Acc*, an abnormal accruals measure (Kothari *et al.*, 2005; Reichelt and Wang, 2010). Table 7 presents results using these measures as dependent variables and shows no evidence of an association between Super Bowl hosting or busy season status and either measure of audit quality. We find no statistically significant associations between our interaction of interest (*Host*Busy*) and *Ab_Acc* (coefficient

= 0.0033; $p = 0.8040$) or *P_Misstate* (coefficient = 0.0011; $p = 0.2275$), or between *Host* and the two measures (coefficient = -0.0049 and -0.0009, respectively; $p = 0.6505$ and 0.2223 , respectively).¹⁰

In addition, in untabulated analyses, we examine two additional proxies of audit quality: nonstandard XBRL tags (Hoitash and Hoitash, 2018) and 10-K filing size (Loughran and McDonald, 2014), and we find no statistically significant evidence of differential audit quality for host-city company-years. In sum, we find no evidence that Super Bowl hosting affects audit quality.

4.5 Additional Analyses

In the next set of untabulated analyses, we consider the likelihood of a company announcing earnings prior to the audit report date (Bronson *et al.*, 2011; Seavey *et al.*, 2022; Krishnan and Yang, 2009). Consistent with our tabulated results suggesting a longer audit report lag but no impact on earnings announcement timing, we find larger gaps between earnings announcement and the audit report data in Super Bowl hosting years relative to non-hosting years, but no greater likelihood that companies announce earnings at least three days before the audit report date.

We note that both the audit report lag and the filing lag are imperfect proxies for examining the impact of auditor performance on financial reporting timeliness, as both lags are also affected by the client. Thus, we look for predictable cross-sectional variation in our results, to test whether the Super Bowl affects the financial reporting timeliness of some host-city audits more than others (e.g., Whitworth and Lambert, 2014; Francis and Yu 2009; Ettredge *et al.* 2007). First, we partition our sample on *Fees_Scaled*, a proxy for degree of audit difficulty. Our

¹⁰ We continue to find no significant statistical association between *Host*Busy* and audit quality when considering signed, income-increasing, or income-decreasing abnormal accruals.

results remain significant for the subsample of observations with higher values of *Fees_scaled* (*Aud_Lag* coefficient = 0.0480, $p = 0.0064$; *10K_Lag* coefficient = 0.0351, $p = 0.0081$), while the hosting effect is statistically insignificant or weaker for the lower *Fees_scaled* value subset (*Aud_Lag* coefficient = 0.0047, $p = 0.8108$; *10K_Lag* coefficient = 0.0215, $p = 0.0836$). Second, we consider the size of the local auditor office by partitioning our sample on local office size and replicate the results for larger local offices (*Aud_Lag* coefficient = 0.0347, $p = 0.0914$; *10K_Lag* coefficient = 0.0396, $p = 0.0039$); but not for smaller ones (*Aud_Lag* coefficient = 0.0212, $p = 0.2152$; *10K_Lag* = 0.0085, $p = 0.4849$). Similarly, we consider audit firm size (i.e., Big 4 versus non-Big 4 status) and replicate the results for Big 4 audit firms (*Aud_Lag* coefficient = 0.0371, $p = 0.0287$; *10K_Lag* coefficient = 0.0364, $p = 0.0009$), but not for non-Big 4 audit firms (*Aud_Lag* coefficient = 0.0229, $p = 0.2404$; *10K_Lag* coefficient = 0.0106, $p = 0.4823$).¹¹ Overall, these results provide evidence consistent with previous audit theory and findings, suggesting the effect we observe is due to human capacity constraints on the auditor.

As another analysis, we add to our existing sample the MSAs of the teams that play in the Super Bowl during our sample to examine if the MSAs whose teams are in the Super Bowl also incur timeliness delays. We modify model 1 to include a dummy for MSAs whose team is playing in the Super Bowl (*Played*), and also interact it with Busy (*Played*Busy*). In this analysis we find a statistically significant increase in audit report lag for busy season audit clients in the MSAs whose teams are playing in the Super Bowl of approximately 2.5 days,¹² but no significant increase in audit completion times as measured by the filing lag.

¹¹ Results for the pre-2009 sample show no significant association between *Host*Busy* and *Aud_Lag(Pre)* for the subsample of observations with higher *Fees_scaled*. However, there is a significant association between *Host*Busy* and *Aud_Lag(Pre)* for the subsample of larger local offices (coefficient = 0.0622, $p = 0.0642$) and the subsample of Big 4 audit firms (coefficient = 0.0718, $p = 0.0370$).

¹² A similar analysis run on the pre-2009 subsample estimates a 3.5 day increase in audit report lag for busy-season companies located in an MSA playing in the Super Bowl.

Finally, a similar analysis of host cities of the NCAA Men's Basketball Final Four (typically held in early April) finds no significant impact on audit report lag or filing lag for December or first-quarter fiscal year-end clients, despite prior literature suggesting temporary capital market inefficiencies surrounding the event (Drake et al., 2016).

5. Conclusion

The Super Bowl coincides with the financial reporting busy season and serves as an unofficial holiday for many. The Super Bowl and associated events likely interrupt day-to-day business activities and divert auditors' attention away from critical audit-related tasks, specifically in the host city where those events are held. The setting provides the opportunity to examine how audit firms navigate an anticipated, but exogenously-imposed capacity constraint which should be helpful for making inferences about their ability to identify client business risks.

Using 16 years of financial reporting data, we test the impact of Super Bowl hosting and find it results in increased audit report lags (approximately 3 days, for busy season companies in comparison to non-hosting busy season companies) and less timely SEC (10-K) filings. However, we find no impact of Super Bowl hosting on earnings announcement timeliness, audit fees, or audit quality. Additional subsample analyses suggest the Super Bowl particularly impacts audit clients that require more effort to audit, as well as larger audit firms and local offices (who are likely serving multiple large clients simultaneously). While the audit report lag is less reflective of audit efficiency/timeliness in recent years (Glover *et al.*, 2022), results from a pre-2009 sample and other additional analyses, combined with the lack of results for the timeliness of the earnings announcement, provide evidence consistent with the associations we document being related to the audit rather than client-related factors. Our study contributes to our understanding of the costs of hosting the Super Bowl, the organizational impact of disruptions,

the importance of human capacity inputs to financial reporting timeliness, and the effectiveness of audit firms at anticipating and responding to exogenously-imposed short-term capacity constraints.

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Appendix A – Variable Definitions

Dependent Variables:

Aud_Lag: The natural log of the number of days between the observation company's fiscal year-end and the audit report signature date, taken from the Audit Analytics opinion file. (Abbott et al. 2012; Ettredge et al. 2007)

EA_Lag: The natural log of the number of days between the observation company's fiscal year-end and the annual earnings announcement date, taken from Compustat. (Bagnoli et al., 2002; Schwartz and Soo, 1996)

10K_Lag: The natural log of the number of days between the observation company's fiscal year-end and the filing of the annual report (10-K), taken from the Audit Analytics opinion file. (Impink et al. 2012; Easton and Zmijewski 1993).

Aud_Fees: The natural log of audit fees paid by the observation company during the fiscal year, taken from the Audit Analytics fee file. (Francis et al. 2005; Beck and Mauldin 2014)

Ab_Acc: The residual from a model predicting the company's level of accruals (Kothari et al. 2005).

P_Misstate: The predicted likelihood of an accounting restatement based on a logistic regression (Lobo and Zhao 2013).

Independent Variables:

*Host*Busy*: An interaction dummy that equals one in a fiscal year when the auditor's office is located in the Metropolitan Statistical Area hosting the Super Bowl and the observation company has a December fiscal year-end, and zero otherwise.

Host: A dummy that equals one in a fiscal year when the auditor's office is located in the Metropolitan Statistical Area hosting the Super Bowl, and zero otherwise.

Busy: A dummy that equals one when the observation company has a December fiscal year-end, and zero otherwise. (Compustat Datadate)

Control Variables:

Fees_Scaled: Total audit fees (Audit Analytics) divided by total assets (Compustat AT). (Ettredge et al. 2006)

Size: The natural log of year-end market value of equity (Compustat Mkvalt).

B4: A dummy equal to one if the auditor is a Big 4 auditor or Arthur Andersen, and zero otherwise. (Audit Analytics)

Segments: The natural log of the number of business and geographic segments reported by the company. (Compustat)

ROA: Net income divided by total assets. (Compustat NI / AT)

Rec_Inv: Receivables plus inventory divided by total assets. (Compustat (Rect + Inv)/AT)

NI_Loss: A dummy equal to one if the reported net income (Compustat NI) is negative, and zero otherwise.

Volume: The number of common shares traded divided by the number of common shares outstanding for the fiscal year. (Compustat CSHTR/CSHO)

MB: The ratio of the year-end market value of equity divided by book value of equity. (Compustat Mkvalt / Seq)

Foreign: A dummy equal to one if the company has foreign operations (Compustat TXFO, FCA, PIFO, TXDFO non-zero and non-missing), and zero otherwise.

Mat_Weak: A dummy equal to one if the company reports a material internal control weakness (Audit Analytics), and zero otherwise.

LAF: A dummy equal to one for large accelerated filer filing status (Audit Analytics), and zero otherwise.

AF: A dummy equal to one for accelerated filer filing status (Audit Analytics), and zero otherwise.

Going_Concern: A dummy equal to one when the audit report includes a going concern warning (Audit Analytics), and zero otherwise.

Extra: A dummy equal to one if the company reports extraordinary items (Compustat), and zero otherwise.

Special: A dummy equal to one if the company reports special items (Compustat), and zero otherwise.

Leverage: The ratio of liabilities (Compustat DLC plus DLTT) to assets (Compustat AT).

M&A: A dummy equal to one if the company is involved in mergers and acquisitions (Compustat AQS non-zero and non-missing), and zero otherwise.

Table 1

Sample selection.

	Total
Audit Analytics Merged Fee and Opinion File, 2000-2015	161,293
Compustat Industrial Annual File, 2000-2015	150,857
Merged Sample (Compustat, Audit Analytics for 2000-2015)	90,246
Observations removed due to missing control variable data	-16,012
Observations located outside MSA's that host the Super Bowl	-44,154
Core Sample of Super Bowl hosting MSA's	30,080
Observations after June 15 th , 2009 and MSAs hosting after 2009	-17,821
Subsample of Compustat fiscal years pre-2009 audit report lag analysis	12,259

Source: Created by authors

Table 2
Super Bowl hosting cities by year.

Compustat Fiscal Year	Date of Super Bowl	Location (MSA)	MSA Rank in the U.S.	MSA Population	Hosting Observations	Busy Season Hosting Observations
2000	January 28, 2001	Tampa, FL	19	2,783,243	43	33
2001	February 3, 2002	New Orleans, LA	46	1,189,866	39	31
2002	January 26, 2003	San Diego, CA	17	3,095,313	87	61
2003	February 1, 2004	Houston, TX	6	5,920,416	179	144
2004	February 6, 2005	Jacksonville, FL	40	1,345,596	22	15
2005	February 5, 2006	Detroit, MI	12	4,296,250	59	47
2006	February 4, 2007	Miami, FL	8	5,564,635	122	95
2007	February 3, 2008	Phoenix, AZ	14	4,192,887	54	35
2008	February 1, 2009	Tampa, FL	19	2,783,243	50	39
2009	February 7, 2010	Miami, FL	8	5,564,635	95	65
2010	February 6, 2011	Dallas, TX	4	6,426,214	155	120
2011	February 5, 2012	Indianapolis, IN	33	1,887,877	52	40
2012	February 3, 2013	New Orleans, LA	46	1,189,866	21	18
2013	February 2, 2014	New York City, NY	1	19,657,410	557	413
2014	February 1, 2015	Phoenix, AZ	14	4,192,887	46	36
2015	February 7, 2016	San Francisco, CA	11	4,335,391	318	226
Total					1899	1418

Table 2 details the hosting city of the Super Bowl, the city's population and the rank of the metropolitan statistical area, the number of companies in each hosting city, and the number of companies with a year-end during the busy season in each hosting city. MetLife Stadium hosted the Super Bowl in calendar-year 2014 and is the home stadium for both the New York Jets and the New York Giants despite being located in East Rutherford, New Jersey. We measure host for that year based on the combined statistical area. Levi's Stadium hosted the Super Bowl in calendar-year 2016 and is the home stadium for the San Francisco 49ers despite being located in Santa Clara. We measure host for that year based on the combined statistical area.

Source: Created by authors

Table 3
Descriptive statistics.

Variables	Mean	Median	Standard Deviation	Lower Quartile	Upper Quartile
Aud_Lag	4.1122	0.3857	3.9703	4.1431	4.3175
10K_Lag	4.2990	0.2657	4.0943	4.3175	4.4886
EA_Lag	3.9249	0.4923	3.5553	3.9703	4.3041
Ab_Acc	0.1553	0.3001	0.0314	0.0785	0.1669
P_Misstate	0.0944	0.0194	0.0810	0.0984	0.1065
Busy	0.7292	0.4444	0	1	1
Fees_Scaled	0.0046	0.0137	0.0005	0.0016	0.0045
Size	5.7346	2.2804	4.0635	5.7604	7.3155
B4	0.6767	0.4678	0	1	1
Segments	0.9981	0.7993	0	1.0986	1.6094
ROA	-0.1057	0.5910	-0.0748	0.0143	0.0606
Rec_Inv	0.2598	0.2312	0.0681	0.1946	0.3909
NI_Loss	0.3834	0.4862	0	0	1
Volume	1.7011	1.7639	0.4539	1.1476	2.3083
MB	4.1334	8.2779	1.1274	1.9343	3.5702
Foreign	0.4587	0.4983	0	0	1
Mat_Weak	0.0637	0.2442	0	0	0
LAF	0.3758	0.4843	0	0	1
AF	0.2966	0.4568	0	0	1
Going_Concern	0.0572	0.2323	0	0	0
Extra	0.0457	0.2088	0	0	0
Special	0.5982	0.4903	0	1	1
Leverage	0.2038	0.2099	0.0074	0.1454	0.3377
M&A	0.0958	0.2944	0	0	0

The sample contains 30,080 observations of Compustat companies during fiscal years 2000 to 2015, except for *Ab_Acc* and *P_Misstate* which further reduce the sample. All variables are defined in Appendix A.

Source: Created by authors

Table 4
Correlation Matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Aud_Lag	0.47	0.58	-0.12	0.13	-0.05	0.03	0.03	0.16	-0.02	-0.34	-0.31	-0.08	-0.10	0.01	0.18	-0.17	0.04	-0.10	0.26	-0.26	0.00	0.20	-0.08	-0.02	0.04	-0.01
1 10K_Lag		0.52	-0.51	0.16	-0.07	-0.03	-0.04	0.17	-0.07	-0.57	-0.33	-0.17	-0.17	0.09	0.27	-0.28	0.03	-0.22	0.23	-0.47	0.03	0.24	0.08	-0.12	-0.05	0.00
2 EA_Lag			-0.42	0.18	-0.02	0.01	0.02	0.23	-0.04	-0.59	-0.44	-0.18	-0.18	-0.06	0.30	-0.27	0.08	-0.24	0.21	-0.42	-0.03	0.27	-0.05	-0.10	0.05	-0.02
3 Aud_Fees				-0.23	0.19	0.02	0.02	-0.23	0.08	0.80	0.53	0.43	0.23	-0.07	-0.25	0.35	-0.13	0.48	-0.04	0.59	-0.04	-0.26	0.02	0.33	0.18	0.09
4 Ab_Acc					-0.04	0.00	-0.01	0.33	0.02	-0.20	-0.18	-0.15	-0.49	-0.09	0.20	-0.06	0.24	-0.11	0.10	-0.14	-0.03	0.27	-0.03	-0.04	-0.07	-0.01
5 P_Misstate						-0.02	-0.02	-0.08	-0.09	0.19	0.12	0.24	0.06	-0.04	-0.06	0.21	0.01	0.26	-0.03	0.16	-0.04	-0.05	0.04	0.12	0.02	0.14
6 Host*Busy							0.86	-0.01	0.14	0.02	-0.01	-0.02	0.01	-0.01	0.01	-0.01	0.01	-0.01	-0.01	0.01	0.00	0.00	0.00	0.01	0.01	-0.01
7 Host								-0.01	0.01	0.02	-0.02	-0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.01	0.00	0.01	0.01	-0.01
8 fees_scaled									0.01	0.02	-0.02	-0.12	-0.47	-0.06	0.20	-0.11	0.35	-0.10	0.09	-0.18	-0.05	0.29	-0.04	-0.07	-0.14	-0.04
9 Busy										0.09	0.07	-0.09	-0.01	-0.10	0.01	-0.04	0.01	-0.08	-0.02	0.07	0.01	-0.02	0.02	0.00	0.11	0.01
10 Size											0.54	0.31	0.25	-0.15	-0.40	0.37	0.02	0.37	-0.11	0.70	-0.07	-0.30	0.05	0.20	0.11	0.07
11 b4												0.21	0.14	-0.13	-0.17	0.28	-0.08	0.25	-0.14	0.40	0.05	-0.23	0.10	0.16	0.09	0.05
12 Segments													0.15	-0.01	-0.13	0.17	-0.11	0.51	-0.02	0.25	-0.04	-0.15	0.06	0.23	0.02	0.11
13 roa														0.13	-0.38	0.06	-0.30	0.12	-0.09	0.17	0.03	-0.38	0.01	0.00	0.07	0.02
14 rec_inv															-0.17	-0.12	-0.10	-0.02	-0.01	-0.10	0.00	-0.08	-0.02	-0.07	-0.04	-0.05
15 ni_loss																-0.04	0.11	-0.10	0.11	-0.31	0.04	0.27	0.02	0.07	-0.04	0.00
16 Volume																	-0.02	-0.03	0.32	-0.02	-0.10	-0.02	0.16	0.02	0.06	
17 MB																		-0.05	0.08	0.00	-0.05	0.19	-0.04	-0.05	0.03	-0.03
18 foreign																			0.00	0.28	-0.02	-0.13	0.01	0.25	-0.06	0.10
19 Mat_Weak																				-0.10	0.00	0.16	-0.04	0.03	-0.01	0.01
20 laf																					-0.50	-0.18	0.04	0.16	0.14	0.05
21 af																						-0.09	-0.02	-0.02	-0.08	0.01
22 Going_Concern																							-0.02	-0.02	-0.01	-0.03
23 extra																								0.03	0.09	0.02
24 Special																									0.11	0.13
25 Leverage																										0.03
26 M&A																										

The sample contains 30,080 observations of Compustat companies during fiscal years 2000 to 2015, except for *Ab_Acc* and *P_Misstate* which further reduce the sample. Correlations different from zero at p-values less than 0.05 percent (two-tailed) are in bold.

Source: Created by authors

Table 5
Impact of Super Bowl hosting on audit report lag and filing lag.

Panel A: Multivariate Analysis

Variables	<i>DV = Aud_Lag</i>		<i>DV = Aud_Lag(Pre)</i>		<i>DV = 10K_Lag</i>	
	Parameter Estimate	<i>p-value</i>	Parameter Estimate	<i>p-value</i>	Parameter Estimate	<i>p-value</i>
Intercept	4.2467	<0.0001	4.2646	<0.0001	4.5825	<0.0001
Host*Busy	0.0320	0.0070	0.0481	0.0433	0.0224	0.0065
Host	0.0110	0.1568	-0.0147	0.2724	-0.0192	0.0055
Fees_Scaled	0.5725	0.0153	1.3089	0.0182	0.0246	0.4556
Busy	-0.0038	0.3065	-0.0428	0.0052	-0.0114	0.0157
Size	-0.0461	<0.0001	-0.0335	<0.0001	-0.0372	<0.0001
B4	-0.0315	<0.0001	-0.0259	0.0736	-0.0394	<0.0001
Segments	0.0158	0.0001	0.0339	0.0005	0.0020	0.2538
ROA	0.0064	0.0973	-0.0196	0.0104	0.0056	0.0762
Rec_Inv	0.0791	<0.0001	0.1491	0.0006	0.0169	0.0919
NI_Loss	0.0323	<0.0001	0.0651	<0.0001	0.0234	<0.0001
Volume	-0.0143	<0.0001	-0.0172	<0.0001	-0.0075	<0.0001
MB	-0.0003	0.2079	-0.0009	0.1780	0.0005	0.0148
Foreign	0.0096	0.0861	0.0057	0.3695	0.0038	0.2075
Mat_Weak	0.2300	<0.0001	0.2036	<0.0001	0.2001	<0.0001
LAF	-0.0551	<0.0001	-0.0387	0.0646	-0.0916	<0.0001
AF	-0.0255	0.0022	-0.0005	0.4905	-0.0429	<0.0001
Going_Concern	0.0946	<0.0001	0.1287	<0.0001	0.0602	<0.0001
Extra	0.0460	0.0002	0.0398	0.0235	0.0516	<0.0001
Special	0.0232	<0.0001	0.0254	0.0069	-0.0024	0.2024
Leverage	0.1060	<0.0001	0.1189	0.0006	0.0272	0.0054
M&A	0.0213	0.0010	0.0243	0.0649	0.0322	<0.0001
Year and Industry Fixed Effects	Yes		Yes		Yes	
R ²	0.3357		0.2637		0.4638	
Number of Observations	30,080		5,554		30,080	

Panel B: Economic significance of predicted audit lag for hosting and non-hosting for clients with busy season versus non-busy season year-end.

	Predicted Audit Lag			
	Host	Non-Hosting	Difference	Percent Difference
Busy Season	63.56	60.89	2.67	4.38%
Non-Busy Season	61.79	61.12	0.67	
Difference	1.77	-0.23	2.0	
Percent Difference	2.86%			

Table 5 provides results in estimating Model (1) on the sample of companies from Table 1, examining the effects of cities hosting the Super Bowl. *Aud_Lag* estimates Model (1) over our full sample of fiscal years (2000-2015). *Aud_Lag(Pre)* estimates Model (1) and includes only data over the 2000-2008 Compustat fiscal-years to reflect the structural changes regarding audit report date and 10-k filing as highlighted by Glover *et al.* (2022). *10K_Lag* estimates Model (1) over the full sample of Compustat fiscal years (2000-2015). Panel B reflects the differences

across audits of the two key dimensions we examine, Busy season and Super Bowl host-year, creating four categories: Busy season company in a hosting year, Busy season company in a non-hosting year, non-Busy season company in a hosting year, and non-Busy season company in a non-hosting year. The standard errors for the regression are corrected for heteroscedasticity and clustered by company. Variable definitions are provided in Appendix A. The p-values for the regressions reflect a one-tailed test.

Source: Created by authors

Table 6

Super Bowl hosting impacts on earnings announcement timeliness and audit fees.

Variables	<i>DV = EA_Lag</i>		<i>DV = Aud_Fees</i>	
	Parameter Estimate	<i>p-value</i>	Parameter Estimate	<i>p-value</i>
Intercept	4.6630	<0.0001	9.4739	<0.0001
Host*Busy	0.0134	0.3308	0.0297	0.3179
Host	0.0115	0.3172	0.0020	0.9366
Fees_Scaled	0.1174	0.7203		
Busy	0.0078	0.5110	0.0645	0.0011
Size	-0.1006	<0.0001	0.3793	<0.0001
B4	-0.1061	<0.0001	0.5160	<0.0001
Segments	-0.0081	0.2217	0.2034	<0.0001
ROA	0.0107	0.0692	-0.0201	0.1173
Rec_Inv	0.0414	0.1209	0.4869	<0.0001
NI_Loss	0.0250	0.0006	0.2260	<0.0001
Volume	-0.0164	<0.0001	-0.0001	0.9905
MB	0.0014	0.0961	-0.0211	<0.0001
Foreign	-0.0301	0.0034	0.3349	<0.0001
Mat_Weak	0.2018	<0.0001	0.1558	<0.0001
LAF	-0.0744	<0.0001	0.1132	0.0003
AF	-0.0728	<0.0001	0.0665	0.0035
Going_Concern	0.0892	<0.0001	0.0343	0.2460
Extra	0.0146	0.2177	0.0819	0.0010
Special	0.0102	0.0680	0.2561	<0.0001
Leverage	0.1192	<0.0001	0.8300	<0.0001
M&A	0.0295	0.0003	-0.0276	0.0930
Year and Industry Fixed Effects	Yes		Yes	
R ²	0.5567		0.8079	
Number of Observations	30,057		30,080	

Table 6 provides the results of estimating Model (1) on the sample from Table 1 for the earnings announcement lag and Model (2) estimated for audit fees. The standard errors for the regression are corrected for heteroscedasticity and clustered by company. Variable definitions are provided in Appendix A. The p-values for each of the regressions reflect two-tailed tests.

Source: Created by authors

Table 7
Super Bowl hosting impacts on Audit Quality

Variables	<i>DV = Ab_Acc</i>		<i>DV = P_Misstate</i>	
	Parameter Estimate	<i>p-value</i>	Parameter Estimate	<i>p-value</i>
Intercept	0.1301	<0.0001	0.0791	<0.0001
Host* Busy	0.0033	0.8040	0.0011	0.2275
Host	-0.0049	0.6505	-0.0009	0.2223
Fees_Scaled	1.5116	0.1541	-0.1290	0.0115
Busy	0.0054	0.2933	0.0007	0.1673
Size	0.0004	0.8642	0.0016	<0.0001
B4	-0.0286	<0.0001	-0.0028	<0.0001
Segments	-0.0100	0.0005	0.0005	0.2046
ROA	-0.2096	<0.0001	-0.0011	0.1439
Rec_Inv	-0.0460	0.0002	0.0113	<0.0001
NI_Loss	-0.0254	0.0004	-0.0020	<0.0001
Volume	0.0029	0.0108	0.0012	<0.0001
MB	0.0027	<0.0001	-0.0001	0.3457
Foreign	-0.0172	0.0006	0.0013	0.0222
Mat_Weak	0.0352	0.0013	-0.0022	0.0033
LAF	-0.0228	0.0038	0.0016	0.0857
AF	-0.0212	0.0018	0.0016	0.0180
Going_Concern	0.0767	0.0005	-0.0005	0.6363
Extra	-0.0058	0.4632	0.0011	0.0682
Special	0.0063	0.1751	0.0006	0.0795
Leverage	-0.0562	<0.0001	0.0066	<0.0001
M&A	0.0153	0.0033	0.0042	<0.0001
Year and Industry Fixed Effects	Yes		Yes	
R ²	0.2870		0.3036	
Number of Observations	20,527		21,921	

Table 7 provides the result of estimating Model (3) on the sample from Table 1 for the dependent variables pertaining to audit quality, *Ab_Acc* and *P_Misstate*. The standard errors for the regression are corrected for heteroscedasticity and clustered by company. Variable definitions are provided on Appendix A. The p-values for each of the regressions reflect two-tailed tests.

Source: Created by authors